

IN THE CLAIMS

1-37. (canceled).

38. (previously presented) A display device comprising:

a semi-transparent reflective layer;

a first electrode of a light reflecting material;

a second electrode of a transparent material; and

an organic layer including a light emitting layer interposed between the first electrode and the second electrode,

wherein,

a cavity portion comprises one of a gap between an interface between the first electrode and said organic layer and an interface between the organic layer and said semi-transparent reflective layer, a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of the second electrode, and a gap between an interface between the first electrode and said organic layer and said upper edge interface of the second electrode,

wherein an optical path length L of said cavity portion has a positive minimum value in a range that satisfies the equation:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum extracted through said second electrode.

39. (previously presented) A display device comprising:

a semi-transparent reflective layer;

a first electrode of a light reflecting material;

a second electrode of a transparent material; and

an organic layer including a light emitting layer interposed between the first electrode and the second electrode,

wherein,

a cavity portion comprises one of a gap between an interface between the first electrode and said organic layer and an interface between the organic layer and said semi-

transparent reflective layer, a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of the second electrode, and a gap between an interface between the first electrode and said organic layer and said upper edge interface of the second electrode,

wherein an optical path length L' of said cavity portion satisfies the equation:

$$(2L')/\lambda + \Phi/(2\pi) = m1 + 4 \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum of green light extracted through said second electrode, and wherein an optical path length L of the cavity portion has a positive minimum value in a range that satisfies the equation below and $m1$ is the integer m that satisfies the equation below:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer).}$$

40. (previously presented) A display device comprising:

a semi-transparent reflective layer;

a first electrode of a light reflecting material;

a second electrode of a transparent material; and

an organic layer including a light emitting layer interposed between the first electrode and the second electrode,

wherein,

a cavity portion comprises one of a gap between an interface between the first electrode and said organic layer and an interface between the organic layer and said semi-transparent reflective layer, a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of the second electrode, and a gap between an interface between the first electrode and said organic layer and said upper edge interface of the second electrode,

wherein an optical path length L' of said cavity portion satisfies the equation:

$$(2L')/\lambda + \Phi/(2\pi) = m1 + q \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum of green light extracted through said second electrode, and

wherein an optical path length L of said cavity portion has a positive minimum value in a range that satisfies the equation below and m1 is the integer m that satisfies the equation below and q is the integer not smaller than 10:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer).}$$

41. (currently amended) A display device comprising:
a semi-transparent reflective layer;
a first electrode of a light reflecting material;
a second electrode of a transparent material; and
an organic layer including a light emitting layer interposed between the first electrode and the second electrode,

wherein,

a cavity portion comprises one of a gap between an interface between the first electrode and said organic layer and an interface between the organic layer and said semi-transparent reflective layer, a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of the second electrode, and a gap between an interface between the first electrode and said organic layer and said upper edge interface of the second electrode,

a color filter is provided for transmitting light resonating in said cavity portion and extracted through said second electrode, and

a reflectance of each wavelength of external light is limited to 30% or less.

42. (previously presented) A display device of claim 41,
wherein,
an optical path length L of said cavity portion has a positive minimum value in a range that satisfies the equation:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum extracted through said second electrode.

43. (previously presented) A display device of claim 41,

wherein,

an optical path length L' of said cavity portion satisfies the equation:

$$(2L')/\lambda + \Phi/(2\pi) = m_1 + 4 \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum of green light extracted through said second electrode, and m_1 is the integer m that satisfies the equation:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer)}.$$

44. (currently amended) A display device of claim 41,

wherein,

an optical path length L' of said cavity portion satisfies the equation:

$$(2L')/\lambda + \Phi/(2\pi) = m_1 + q \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum of green light extracted through said second electrode, and m_1 is the integer m that satisfies the equation and q is the integer not smaller than 10:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer)}.$$

45. (canceled).

46. (canceled).

47. (canceled).

48. (canceled).

49. (currently amended) A display device, comprising:

a semi-transparent reflective layer;

a first electrode of a light reflective material;

a second electrode of a transparent material; and

an organic layer including a light emitting layer interposed between the first electrode and the second electrode,

wherein,

a cavity portion comprises a gap between an interface between the first electrode and said organic layer and an interface between the organic layer and said semi-transparent reflective layer, and

an optical path length L of said cavity portion is within a range of L_1 to L_2 where L_1 is the optical path length when the peak wavelength of externally extracted spectrum is shorter than the peak wavelength of internally resonated spectrum by a half width of said internally resonated spectrum and L_2 is the optical path length when the peak wavelength of externally extracted spectrum is longer than the peak wavelength of internally resonated spectrum by a half width of said internally resonated spectrum ~~limited to within one half of the half width of said emission spectrum when said optical path length is the difference between the peak wavelength of the spectrum of light emitted by the device upon a change in view angle and the peak wavelength of the internal emission spectrum.~~

50. (previously presented) The display device of claim 49 having a color filter for transmitting light resonating in said cavity and extracted through said second electrode.

51. (previously presented) A display device comprising:

a semi-transparent reflective layer;

a first electrode of a light reflecting material;

a second electrode of a transparent material;

a passivation film on said second electrode; and

an organic layer including a light emitting layer interposed between the first electrode and the second electrode,

wherein,

a cavity portion comprises a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of said passivation film,

wherein an optical path length L' of said cavity portion satisfies the equation:

$$(2L')/\lambda + \Phi/(2\pi) = m + 1/4 \quad (m \text{ is an integer})$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum of green light extracted through said second electrode, and wherein an optical path length L of the cavity portion has a positive minimum value in a range that satisfies the equation below and m is the integer m that satisfies the equation below:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer).}$$

52. (previously presented) A display device comprising:
a semi-transparent reflective layer;
a first electrode of a light reflecting material;
a second electrode of a transparent material;
a passivation film on said second electrode; and
an organic layer including a light emitting layer interposed between the first electrode and the second electrode,
wherein,

a cavity portion comprises a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of said passivation film,

wherein an optical path length L' of said cavity portion satisfies the equation:

$$(2L')/\lambda + \Phi/(2\pi) = m + q \text{ (m is an integer)}$$

where Φ radians is the sum of phase change amounts to reflection of the light emitted from the light emitting layer at both interfaces bounding the gap and λ is the peak wavelength of the spectrum of green light extracted through said second electrode, and wherein an optical path length L of said cavity portion has a positive minimum value in a range that satisfies the equation below and m is the integer m that satisfies the equation below and q is the integer not smaller than 10:

$$(2L)/\lambda + \Phi/(2\pi) = m \text{ (m is an integer).}$$

53. (new) A display device comprising:
a semi-transparent reflective layer;
a first electrode of a light reflecting material;
a second electrode of a transparent material; and

an organic layer including a light emitting layer interposed between the first electrode and the second electrode, wherein:

a cavity portion comprises one of a gap between an interface between the first electrode and said organic layer and an interface between the organic layer and said semi-transparent reflective layer, a gap between an interface between the semi-transparent reflective layer and the second electrode and an upper edge interface of the second electrode, and a gap between an interface between the first electrode and said organic layer and said upper edge interface of the second electrode,

a color filter is provided for transmitting light resonating in said cavity portion and extracted through said second electrode, and

said color filter transmits a wavelength range which is substantially equal to the wavelength range extracted from said cavity portion.